

Application No. 09/205,119  
Reply to Office Action of January 12, 200

### REMARKS

Presently, claims 82-116 are pending in the application. Claims 98-103 have been renumbered as claims 97-102, respectively. Claims 82, 84-85, 88-89, 91-94 and 96-102 have been amended. New claims 103-116 have been added. Support for the amendments to claims 82, 84-85, 88-89, 91-94 and 96-102 and the features of new claims 103-116 may be found, for example, in previously presented claims 82-97 and at page 9, line 26 – page 10, line 30; page 20, line 28 – page 21, line 13; and page 23, line 30 – page 24, line 15 of the specification. Accordingly, no new matter has been added to the application by the foregoing amendments.

Descriptions of the prior art references discussed herein may be found in Applicants' previous Amendments filed in this application on March 28, 2005 and October 31, 2005, which are incorporated herein by reference.

### Response to Examiner's Arguments

Applicants respectfully, but strenuously, disagree with the Examiner's reading of U.S. Patent No. 6,177,931 to Alexander *et al.* ("Alexander"), including the Examiner's reasoning with respect to "collaborative filtering" and the Examiner's continued assertion that Alexander teaches the application and/or use of "heuristic rules."

#### 1. Collaborative Filtering

Initially, Applicants respectfully point out that the Examiner disagrees with Applicants' assertion that Alexander's process is the application of "collaborative filtering" simply because Alexander does not mention the term "collaborative filtering". Although Alexander does not mention such a term, the definition of collaborative filtering included in the previous Amendment was provided to illustrate the process through which Alexander's system operates.

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Regardless of whether or not Alexander teaches “collaborative filtering,” as the Examiner correctly notes at the top of page 3 of the present Office Action, “Alexander...does not disclose cross-referencing other view profiles to determine user demographic characteristics.” This is precisely the point that Applicants make in the remarks of the previous Amendment: “Alexander does not teach or suggest correlating a subscriber demographic with a demographic of a group such that the subscriber may be associated with that group if a sufficient correlation exists” (see pages 10-11 of the previous Amendment). Applicants then suggested that Alexander actually teaches a process of collaborative filtering, which is different than Applicants’ claimed invention. That is, although Alexander’s process teaches comparing viewer profiles to determine the likes or interests of a user, Alexander does not teach or suggest “correlating the at least one subscriber demographic characteristic with the at least one demographic characteristic of the at least one group,” as recited in independent claim 82. Accordingly, even if Alexander teaches making probabilistic determinations (including political affiliations) about a user, as argued by the Examiner, Applicants respectfully submit that Alexander does not teach correlating that obtained demographic characteristic with “at least one demographic characteristic” of a group to arrive at a determination of the subscriber being within that group. Stated differently, Alexander cannot be construed to teach both the determination of a characteristic/group and the correlation that characteristic/group with the characteristic of another group.

## 2. Ordinary Meaning of “Heuristic Rules”

Absent a clear definition in the specification, the words of a claim must be given their plain meaning. “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.’ *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) (*en banc*)...The ordinary and customary meaning of a term may be evidenced by a variety of sources...

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including: the claims themselves...dictionaries and treatises...and the written description, the drawings, and the prosecution history." See MPEP 2111.01.

The ordinary meaning of the term "heuristic" is "involving or serving as an aid to learning, discovery or problem solving by experimental and esp. trial-and error methods; also: of or relating to exploratory problem-solving techniques that utilize self-educating techniques (as the evaluation of feedback) to improve performance" (*Webster's New Collegiate Dictionary*, 9<sup>th</sup> ed.). Thus, one skilled in the art would understand the term "heuristic rules" to mean one or more rules that are determined from learning, discovery, experiments, trial and error, inferences, educated guesses, market studies, human knowledge, experience or calculations. Such concepts are fully supported in the present application, for example, at the first full paragraph on page 10 and at pages 19-22 of the specification, as well as Figs. 10A and 10B in the drawings, where the concept of applying "heuristic rules" in the present application is explained and exemplified. Based on the description and use of the term "heuristic rules" in the specification, Applicants further submit that the term "heuristic rules" and the application thereof as used in the present application is consistent with the ordinary meaning of the term as known to one skilled in the art. Accordingly, one skilled in the art would recognize that Alexander does not teach or suggest the use of "heuristic rules" as recited in the present claims.

### 3. Alexander teaches Statistical Analysis – not Heuristic Rules

At no point does Alexander even discuss "heuristic rules". As previously noted, Alexander utilizes a "Profile Program" that "performs multiple levels of sophisticated analysis and learning involving numerous comparisons...to develop of multi-dimensional profile of the viewer" (Alexander, column 30, lines 1-7). However, the data used by the Profile Program in Alexander is based on a "simple statistical analysis" and "basic viewer profile data" (see column 29, lines 36-37 and lines 55-57 of Alexander). The "statistical analysis" used by Alexander's Profile Program to develop the viewer profile does not apply rules that are based on "exploratory problem-solving techniques that utilize self-

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educating techniques,” or any other type of heuristic procedure or process. Thus, the use of statistical analysis to generate information (e.g., the viewer profile) is different than using *heuristic rules* to develop similar types of information.

Although Alexander indicates that the “Profile Program ‘learns’ to recognize a finer breakdown about the various types of data collected...,” such a statement does not teach that heuristic rules are being applied (see column 29, lines 55-59). Rather, the above passage of Alexander simply suggests that the Profile Program is equipped to finely analyze the collected data such that specific interaction data of an individual user may be compared to ascertain a pattern for that viewer. Such fine statistical analysis does not teach or suggest the development, use or application of a heuristic rule.

Moreover, Alexander’s statistical approach is based purely on a mathematical analysis, whereas heuristic rules are rules that are used to infer or derive something from the data that could not be calculated, determined or observed directly from a statistical (or other) analysis of the data. Stated differently, heuristic rules inherently include some non-mathematical operation or element. The fact that Alexander discloses that the viewer characteristics that form the viewer profile are developed “over time,” and “with sufficient data,” is consistent with the use of statistical analysis, but not necessarily with heuristic rules. That is, although the development and/or application of heuristic rules may include some mathematical analysis, such elements are not *essential* to a heuristic rule. Simply because the conclusion resulting from the application of one type of analysis (e.g., statistical) and heuristic rules is the same, does not mean that the type of analysis is the same. Thus, the mere fact that Alexander’s discussion of the Profile Program includes examples of how statistical analysis and the various data points utilized therein are applied, does not disclose, teach or suggest the use of “heuristic rules”. The Examiner’s assertion that “Alexander must use a heuristic rule as it determines user characteristics based on the number of times a user interacts with an EPG...” is simply incorrect (top of page 4 of the present Office Action, emphasis added). Again, this statement speaks to statistical analysis; heuristic rules do not necessarily require a specific number of iterations.

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### *Claim Objection*

The Examiner has objected to the claims as presented in the previous Amendment, filed October 31, 2005, in that newly presented claims 97-103 were mis-numbered since no claims 96 was presented. Accordingly, in the present Amendment, previously presented claims 97-103 have been renumbered as claims 96-102, respectively. All amendments in the present paper have been made with respect to the correctly numbered claim listing. Reconsideration and withdrawal of the Examiner's objection to the claims are respectfully requested.

### *Claim Rejection – § 103(a)*

The Examiner has rejected claims 82-95 and 97-103 under 35 U.S.C. §103(a) as being unpatentable over Alexander in view of U.S. Patent No. 5,446,919 to Wilkins ("Wilkins"). The Examiner contends that Alexander teaches all features of the present invention with the exception of retrieving demographic information associated with the targeted programming that describes a demographic characteristic of a group associated with the targeted programming. The Examiner further contends that Wilkins teaches this feature, and concludes that it would have been obvious to Wilkins' teachings into Alexander's systems to achieve Applicants' claimed invention. Applicants respectfully traverse this rejection.

Independent claim 82, as amended, recites:

A computer-implemented method of including a subscriber in a group based on subscriber interaction with targeted programming, the method comprising:

- (a) monitoring subscriber interactions with the targeted programming;
- (b) retrieving information associated with the targeted programming, wherein the information describes at least one

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demographic characteristic of at least one group associated with the targeted programming;

(c) applying one or more predefined heuristic rules associated with the subscriber interactions, wherein the heuristic rules relate subscriber demographic characteristics to the subscriber interactions;

(d) inferring at least one subscriber demographic characteristic of the subscriber based on the application of the heuristic rules;

(e) correlating the at least one subscriber demographic characteristic with the at least one demographic characteristic of the at least one group; and

(f) associating the subscriber with the group if there is a sufficient correlation between the at least one subscriber demographic characteristic and the at least one demographic characteristic of the at least one group. (emphasis added)

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references, when combined) must teach or suggest all of the claim limitations. *See* MPEP 2143.

Applicants respectfully submit that the combination of Alexander and Wilkins, even if proper, fails to teach or suggest all of the features of independent claim 82. As discussed above, Alexander does not teach or suggest correlating a subscriber demographic characteristic with a demographic characteristic of a group such that the subscriber may be associated with that group if a sufficient correlation exists. In Alexander, there is no correlation of a subscriber demographic with "the at least one demographic of the group," since the subject viewer in Alexander is not compared or assigned to a group.

Furthermore, any relationship that a subscriber has with a theme in Alexander is determined based solely on a subscriber's previous interactions with that theme. Stated

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differently, in Alexander, if a subscriber views programming that is part of a particular theme, Alexander's EPG will present other programming from the same theme. In contrast, in claim 82, the subscriber is associated with a group by correlating a heuristically determined inference of a subscriber demographic characteristic with a demographic characteristic of a group. In claim 82, the group association is not determined based on whether the subscriber previously viewed material from or selected that group, or whether a subscriber having a similar profile is in that group. Rather, in claim 82 the group association is based on the subscriber's interactions with targeted programming generally, an inference about the subscriber based on the application of predefined heuristic rules, and a sufficiently high correlation of that inference with an attribute of the particular group being examined.

Additionally, Applicants strenuously, but respectfully disagree with the Examiner's contention that Alexander teaches the application and/or use of "predefined heuristic rules" to infer "at least one subscriber demographic characteristic," as recited in independent claim 82. Just because the user in Alexander's system never enters the sought-after information (e.g., marital status, whether they have children, etc.), and Alexander's system in some fashion "speculates" about such criteria as argued by the Examiner, does not mean that Alexander teaches such determination by applying predefined heuristic rules to infer such characteristics. As explained above, the use of statistical analysis to generate information (e.g., the viewer profile) is different than applying predefined *heuristic rules* and then inferring demographic characteristics from such application. Thus, Alexander does not teach or suggest applying "predefined heuristic rules" that "relate subscriber demographic characteristics to the subscriber interactions" and "inferring at least one subscriber demographic based on the application of the heuristic rules," as recited in claim 82. Accordingly, Alexander does not teach or suggest all of the features of independent claim 82.

Although the Examiner relies on Wilkins for the teaching of retrieving demographic information associated with the targeted programming that describes a demographic characteristic of a group associated with the targeted programming, Wilkins does not teach or suggest at least applying predefined heuristic rules to infer at least one

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subscriber demographic characteristic based on the application of such heuristic rules. Wilkins does also not teach or suggest correlating at least one subscriber demographic characteristic with a demographic characteristic of a group such that the subscriber may be associated with that group if a sufficient correlation exists. Accordingly, Wilkins does not teach or suggest all of the features of independent claim 82.

Since neither Alexander nor Wilkins individually teaches or suggests all of the elements recited in independent claim 82, Applicants respectfully submit that, even if Alexander and Wilkins are properly combinable, such a combination would still not teach or suggest the invention of claim 82. This is because such a combination would still not teach or suggest “applying...predefined heuristic rules...inferring at least one subscriber demographic based on the application of heuristic rules; correlating the at least one subscriber demographic characteristic with the at least one demographic of the group; and associating the subscriber with the group if there is a sufficient correlation...” Furthermore, the Examiner has not provided an objective teaching or motivation that suggests the combination of Alexander and Wilkins. Accordingly, new independent claim 82 is believed to be allowable over the suggested combination of Alexander and Wilkins.

Independent claim 91 recites “applying one or more predefined heuristic rules to the subscriber interactions, wherein the application of the heuristic rules infers at least one subscriber demographic characteristic from the subscriber interactions; correlating the at least one subscriber demographic characteristic with the at least one demographic characteristic of the at least one group....” Similarly, independent claim 97 recites “applying one or more heuristic rules to the subscriber interactions, wherein the heuristic rules relate the subscriber interactions to subscriber demographic characteristics that are not directly observable from the subscriber interactions; inferring at least one subscriber demographic characteristic of the subscriber based on the application of the heuristic rules; correlating the at least one subscriber demographic characteristic with the at least one demographic characteristic of the at least one group....” For the same reasons discussed above with respect to independent claim 82, Applicants respectfully submit that Alexander and Wilkins do not teach or suggest all of the features of independent claims

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91 and 97, taken either individually or in combination. Accordingly, independent claims 91 and 97 are believed to be allowable over Alexander and Wilkins.

Dependent claims 83-90, 92-96 and 98-116 are allowable at least by their dependency on independent claims 82, 91 and 97, respectively. Reconsideration and withdrawal of the Examiner's §103(a) rejection of claims 82-95 and 97-103 are respectfully requested.

### *Conclusion*

In view of the foregoing amendments and remarks, Applicants respectfully submit that the Examiner's objection rejection has been overcome, and that the application, including claims 82-116, is in condition for allowance. Reconsideration and withdrawal of the Examiner's objection and rejection and an early Notice of Allowance are respectfully requested.

Respectfully submitted,

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